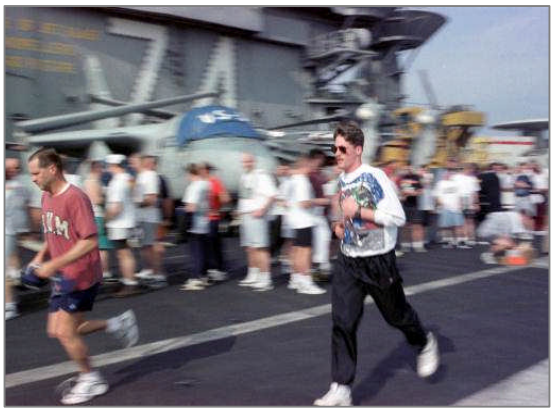
NEHC's PRT Preparation Notes

General Training Guidelines 3 - 4 Weeks prior to the PRT.

Two major principles of training related to the improvement of cardiovascular function are overload and specificity. For optimal results, it is recommended to practice these principles at least 4 to 6 weeks prior to the PRT.

Overload Principle: If a muscle is caused to work against a load to which it is not accustomed, instead of wearing out and becoming weaker, it becomes stronger. For example, if you are preparing for the PRT run and you are interested in improving your run time, you will need to exercise at a higher exercise intensity. Push yourself a little harder than you normally run. I.e., don't expect to improve your PRT run time by walking. *NOTE: For injury prevention purposes, if you have done very little to prepare for the PRT, don't do too much too soon. Pace yourself.*

Specificity of Training: Specificity of training is one of the "golden rules" in exercise science. For an individual to become proficient at ay given movement, that movement itself must be trained and practiced. In other words, if you want to improve your PRT Run time, you need to run. Though activities such as cycling and swimming are other examples of aerobic activities, these exercises will not be as effective as running to prepare you for the PRT run. If you are swimming during the PRT, then you need to focus specifically on the swim event as your primary mode of aerobic activity.



If you want to improve your PRT run time, you need to run.

The same "specificity" concept applies toward the muscular and flexibility components of the PRT. The best way to prepare for push-up testing is to practice push-ups. There are several different types of sit-ups that can be performed, but for the purpose of preparing for the PRT curl-up test, it is important to perform the curl-up exercise - using correct form that will be required of you during the PRT.

Based on the **principle of specificity**, the best exercise you can do to prepare for the push-up test is performing the actual push-up exercise.

48 hours prior to the PRT, "go light" on push-up and curl-up activities.

After the PRT
(until approx. 6 weeks before next PRT test date)

Have some fun! Enjoy selecting and performing the exercises you most enjoy.

You can include a variety of aerobic and muscular activities into your weekly exercise schedule. In fact, participating in a variety of exercise activities decreases your chances of injury and improves exercise adherence (prevents boredom). Exercise variety also reduces the chances of exercise plateaus. What is an exercise program plateau? The body is constantly accommodating to the stresses that you place on it. Physical activity is a stress, so if you perform the same mode of activity repeatedly, the body will "accommodate" to this stress….thus causing the exercise progression to plateau. The activity actually may even become more difficult to perform if the exact same mode and intensity is performed repeatedly.

Add variety into your exercise routine. Try something new. Have fun!!!

For further information, contact Diana Settles, X-0977
Good luck on the PRT! ☺

Prevention of Sports Injuries
Running

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PERSONAL FITNESS:

- Prior to running, participate in a gradual conditioning program with emphasis on balancing out the strength of musculature (correct muscle imbalance). A program consisting of muscular fitness, gradual aerobic conditioning (see training / technique section), and stretching pre/post running is beneficial.
- To reduce risk of stress fractures, a slow and progressive training program that gradually increases strength and endurance of the back and lower extremities is recommended.
- Remember to warm-up and stretch at least 5 – 10 minutes before running.
- Contact a local MWR Trainer for additional information on running conditioning and correct running form. Many MWR Facilities provide safety/injury prevention information regarding preparation, conditioning, and training proper running techniques; imperfections in running style can lead to injury.

EQUIPMENT:

- Proper fitting running shoes are important; replace shoes every 6 months old .
- Orthotics may be beneficial for runners with excessive pronation.

TRAINING / TECHNIQUE:

- Correct training errors. Training should be gradually increased. For beginning runners, alternate day running is recommended. The runner should be able to talk without being short of breath. Monitor both the intensity and the duration of work-outs. Excessive distances, hill running, and speed work may cause common overuse injuries such as iliotibial band friction syndrome and shin splints. A general guideline is to increase running mileage by 10% per week. Monitor the number of days of high intensity workouts and the increase in the training programs. Alternate high effort days with low intensity days of running.
- NOTE: The body responds to excessive stress placed upon it. Even if an experienced runner attempts to increase mileage in a short time, injury may result.
- Discontinue training hard if tired. Prevent running through pain. If it takes more than 48 hours to recover, the workouts may be too long or intense.
- If racing, don't try to make up for lost miles.
- Don't increase mileage more than 10% a year.

ENVIRONMENT:

- Soft and flat running surfaces are recommended; avoid excessive running on cement or asphalt. Uneven ground or slanted roads should be run with caution. .Running on slanted surfaces are responsible for increased injury rates.
- Wear clothing appropriate for weather. For cold weather, dress in layers, cover both head and hands. For hot weather, wear porous clothing. Heat acclimatization usually takes about 2 weeks.
- ACSM recommends that runs/races greater than 10 miles should not be run in temperatures over 82.4 degrees. If the temperature exceeds this, the run should be performed before 0900 or after 1600.
- Alcohol consumption should be discouraged during any athletic participation – especially running.
- Proper hydration during pre-activity and actual activity participation is recommended to prevent fatigue and heat illness. Runners should be trained to recognize early signs of heat injury.
- To run at higher altitudes, allow 3-4 weeks to acclimatize to avoid hypoxia during acute exposure.

Prevention of Sports Injuries
Snow Skiing

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PERSONAL FITNESS:

- Pace yourself; don't do too much too soon when conditioning for ski season.
- Be aware of your personal fatigue level. Skiing injury rates peak in mid-afternoon to late afternoon; fatigue is a significant risk factor in skiing injuries.
- When preparing for ski season, begin participating in activities specific to skiing, such as using the indoor ski machine and upper and lower body muscular fitness exercises. This will strengthen the connective tissue (muscle, bones, ligaments, and tendons) and will provide a good aerobic foundation = decreased chances of injury occurrence during snow ski season.
- Beginner skiers or low ability skiers may be more susceptible to injury.
- Remember to warm-up and stretch at least 5 – 10 minutes before skiing.

EQUIPMENT:

- Use equipment advantageous to injury prevention. The design and function of equipment contribute a great deal to the safety of skiing (multimode release bindings and modern midcalf-height boots).
- Note that research is suggesting that new aggressive double-poling and V-skating methods are leading to an increase in soft tissue and bony stress fractures.
- In Alpine skiing injuries, the ski-pole grip may cause an injury to the thumb. Those using a grip with a broad superior plate are more likely to obtain gamekeepers thumb (hyperextension/abduction injury to the thumb).

TRAINING / TECHNIQUE:

- Avoid participation in high risk behaviors, - i.e., showing off, hot-shotting, etc. Stick to skiing as the singular sport you are participating in.
- The ski racing technique, when the pressure to the ski edge is applied posteriorly on the ski, offers less control and places the racer at increased risk for ACL ligament sprains.
- Lunging across the finish line while "sitting back on the tails" places the skier at risk and should be discouraged.
- Contact a local MWR Trainer for additional information on skiing conditioning and safety guidelines.

ENVIRONMENT:

- Be aware of the environment around you. Be cautious of the potential for avalanche. Be aware of potential environmental hazards such as trees, bushes, other skiers, etc.
- Dress for the sport to prevent cold injuries such as hypothermia and frostbite. Layered clothing is recommended. Accessories such as glove liners, masks, etc. are also recommended for skiers.
- Alcohol consumption should be discouraged as it promotes heat loss.
- Liquid and nutrition replenishment is recommended to decrease exposure-related illness.

NOTES:

- Most injuries in skiing are the result of a fall.
- Skiing fatalities most commonly occur due to heart attack, trauma to the head and neck, and hypothermia.
- A history of prior injury to an extremity indicates an increased risk of re-injury.

REFERENCE: Caine, J., Caine, C., and Lindner, K. Epidemiology of Sports Injuries.. Human Kinetics Publishers, Inc., 1996.

Prevention of Sports Injuries
Basketball

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PERSONAL FITNESS:

- Pace yourself; don't do too much too soon when pre-conditioning for basketball season.
- A conditioning program with emphasis on aerobic and muscular fitness training should be implemented prior to the beginning of basketball season.
- Begin gradually participating in activities specific to basketball, such as motor skill components of fitness: jumping (rope skipping) and agility/coordination/balance drills. This mode of training will strengthen the connective tissue (muscle, bones, ligaments, and tendons) which will assist the body in accommodating to physical stress. These exercises will also assist with neuromuscular coordination, the ability to integrate the senses – sight, sound, and proprioceptive (knowing the position of your body in space) – with motor function to produce smooth, accurate, and skilled movement.
- Add ankle, shin (anterior tibialis), and soleus strengthening exercises to the basic lower extremity muscular fitness exercise program.
- Participate daily in a complete body stretching program.
- Remember to warm-up and stretch at least 5 – 10 minutes before participating in a basketball activity.
- A continued maintenance program throughout the season would also help prevent injuries.
- Contact a local MWR Trainer for additional information on basketball conditioning. Many MWR Facilities provide safety/injury prevention information to coaches, players, and officials regarding preparation, conditioning, and training proper playing techniques.
- NOTE: Prior injury to the body predisposes one to re-injury of that particular extremity.

EQUIPMENT:

- Jewelry, i.e., rings, necklaces, etc. are not recommended during basketball activity participation.
- Clothing attire that contain pockets are not recommended due to the risk of fingers getting caught/lodged in clothing.
- Protective eye goggles would help prevent ocular injury.
- Basketball playing shoes should be used. Shoes specific to other sports are not recommended.
- Basketball goal must be padded; allow space of at least 8-ft. clear area past goal. Ensure bumper guards are installed correctly on glass boards.

TRAINING / TECHNIQUE:

- The style of play by a basketball team may increase risk of injury; the more contact involved, the higher the incidence for injury.
- Trained coaching staff can impact positively upon basketball injury prevention. Coaches should be able to provide safe information to players on the team regarding preparation, conditioning, and training proper playing techniques.
- Officiated games decrease the risk of injury occurrence. Enforcement of rules assists in decreasing the incidence of injury.

ENVIRONMENT:

- Be aware of the environment around you. Prior to participating in basketball, look for predisposing risk factors on the playing court such as foreign objects, towels, gym bags, water, etc.
- Alcohol consumption should be discouraged during any athletic participation.
- Proper hydration during activity is recommended.